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ABSTRACT

A product of the Department of Outdoor Teacher Education Program at Northern Illinois University, this glossary of water resources terms includes 87 briefly defined entries. Examples of the terms and definitions presented are: Acidity (presence of acids in the water which produce a pH below seven); Bathymetry (study of lake bottom contours); Coliform Bacteria (a group of harmless bacteria which exist in the intestines of warm blooded animals, usually an indication of the presence of sewage or harmful bacteria); Drogue (a device used to measure water currents, usually supported by a buoy); Epilimnion (the warm, light, upper level of a stratified lake); Groin (a narrow structure built out into a lake from the shore which is meant to protect the shore from erosion); Hypolimnion (the cold, heavy, lower level of a stratified lake); Lee (the side of a lake away from the prevailing winds, or an area protected from them); Marine (involved with large bodies of water, usually those which are saline); Nutrients (materials which support growth, especially of plants); Outfall (the end of a pipe or tube which discharges effluent into a body of water, or the effluent itself); Parameters (things which are measured, usually in relation to scientific studies or experiments); Saline (salty); Zooplankton (animal plankton). (JC)

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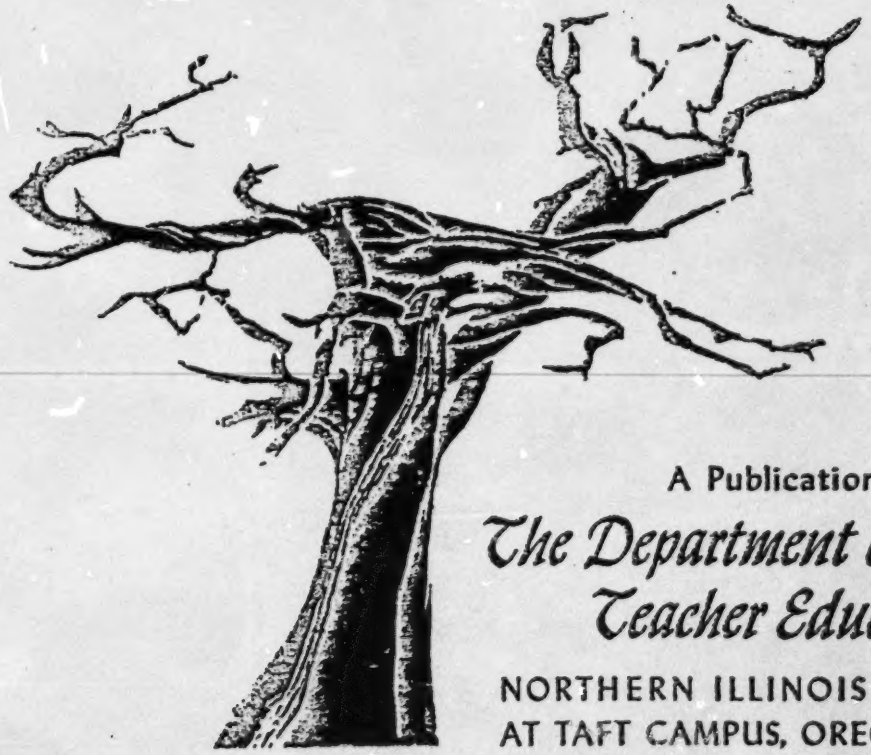

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GLOSSARY OF WATER RESOURCES TERMS"

by

Robert and Sonia Vogl

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Taft Campus Occasional Papers provide a means of sharing professional documents prepared primarily in connection with the on-going program in the Department of Outdoor Teacher Education, Northern Illinois University, but which may be more useful if given a wider distribution.

ACIDITY: Presence of acids in the water which produce a pH below 7.

ALGAE: A group of simple plants usually found growing in water. Excess algae can be unpleasant in appearance and odor. It can contribute to aging of lakes and ponds.

ALKALINITY: Presence of carbonates, bicarbonates, and hydroxides in the water which produce a pH above 7.

ANALOG: That which corresponds to a similar item in a different organism or system.

AQUATIC: Referring to water.

BACTERIA: A group of one-celled organisms which may be either detrimental or beneficial to human welfare, for example by causing diseases or helping to decompose wastes.

BASIN: A depression in the earth's surface within which waters drain to one point, often a lake.

BATHYMETRY: The study of lake bottom contours.

BENTHOS: Organisms which live in or on the bottom of a lake or stream.

BIOCHEMICAL OXYGEN DEMAND (BOD): The amount of oxygen needed for decomposition of organic and other oxidizable material in a given quantity of water. It is expressed in parts per million of oxygen used.

BIODEGRADABLE: Capable of being decomposed biologically, frequently by bacteria.

BIOMASS: The total quantity by weight of organisms living in a certain amount of space.

BIOTA: The living organisms in a particular location.

BLOOM: Heavy growth of one or a few species of algae, usually exhibiting rapid buildup and decline.

BOTTOM: Land underneath a lake.

BUOY: An anchored float used for marking, supporting, mooring, or suspending instruments.

COLIFORM BACTERIA: A group of harmless bacteria which exist in the intestines of warm blooded animals. They are usually an indication of the presence of sewage or harmful bacteria.

CONTAMINATION: The addition of pollutants to a body of water to the extent that they create a health hazard or other undesirable condition.

CUL-DE-SAC: (Bay) with only one outlet; blind pocket.

CURRENT: Flow or movement of water in one direction, usually for a prolonged period.

DEGRADABLE WASTES: Materials entering the water which can be decomposed by natural forces, either physical, chemical, or biological.

DISSOLVED OXYGEN (DO): The amount of oxygen dissolved in water, usually measured in parts per million.

DROGUE: A device used to measure water currents, usually supported by a buoy.

DYSTROPHIC: Referring to acidic, brown water, usually nutrient-poor lakes.

ECOLOGY: The study of the relationships of living organisms to each other and to their environment.

EFFLUENT: Any discharged water. When used in relation to pollution, discharged waters containing materials such as sewage and industrial waste.

ENRICHMENT: The addition of minerals, beyond their naturally occurring levels, which serve as nutrients for increased plant growth.

EPILIMNION: The warm, light, upper level of a stratified lake.

EUTHOPHIC: Waters high in nutrients which support large amounts of plant and animal production; opposite of oligotrophic.

EUTROPHICATION: The gradual increase in biological productivity of waters which often changes their plant and animal composition.

GRADIENT: The slope of a lake bottom or a stream bottom.

GROIN: A narrow structure built out into a lake from the shore which is meant to protect the shore from erosion.

HARD WATER: Water containing high concentrations of calcium and magnesium ions.

HERBICIDE: A chemical used to kill plants.

HYDROGRAPHY: The study and mapping of oceans, lakes, and rivers, usually concentrating on bottom contours.

HYDROLOGY: The study of the waters of the earth, in terms of their distribution, circulation, chemical and physical properties, and their reaction to the environment.

HYPOLIMNION: The cold, heavy, lower level of a stratified lake.

INDICATOR ORGANISMS: Plants and animals which are believed to be present if and only if a given condition prevails, and thus serve to indicate the extreme of that condition.

LACUSTRINE: An adjective referring to lakes.

LAKE BED: The land under a lake, often containing sedimentary deposits.

LEE: The side (of a lake) away from the prevailing winds, or an area protected from them.

LENTIC: Standing (water) such as a lake.

LIMNOLOGICAL SUBSYSTEM: A body of water which is a smaller part of a larger one. Green Bay is a limnological subsystem of Lake Michigan.

LIMNOLOGY: The study of fresh waters, especially lakes.

LITTORAL: Referring to the shore and shallow water near the shore.

LOTIC: Flowing (water) such as a river.

MARINE: Involved with large bodies of water, usually those which are saline.

MESOTROPHIC: Intermediate in productivity between oligotrophic and eutrophic.

MICROCOSM: A little world, miniature universe, closed system.

MODEL: An abstract representation of some aspect of reality which is used as a framework for the interpretation and prediction of physical, chemical, biological, and socioeconomic observations.

MORPHOMETRY: Measurements. In limnology, measurements of the shape of a lake.

NONDEGRADABLE WASTES: Materials entering the water which cannot be decomposed by natural forces.

NUTRIENTS: Materials which support growth, especially of plants.

OCEANOGRAPHY: The study of oceans.

OLIGOTRHPHIC: Waters low in nutrients which support relatively little plant and animal growth; opposite of eutrophic.

OUTFALL: The end of a pipe or tube which discharges effluent into a body of water, or the effluent itself.

PARAMETERS: Things which are measured, usually in relation to scientific studies or experiments.

pH: A measure of acidity or alkalinity. Most life forms survive best at a pH near 7.

PILOT STUDY: A test study undertaken on a small scale before the larger one is done.

PROTOTYPE: A preliminary pattern or model.

PHOSPHATES: Phosphorous oxides, the most common form of phosphorous in water.

PHYTOPLANKTON: Plant plankton.

PLANKTON: Minute aquatic plant and animal life not capable of sustained directed movement.

POLLUTION: The addition of materials which are foreign to the environment.

POLYMERS: Long chain molecules. When polymers are used in sewage treatment, small particles in the water attach to them and then settle out of the water.

PPM: The abbreviation for parts per million, usually measured by weight.

PRIMARY TREATMENT: The treatment of sewage by allowing most of the solids to settle out of the water, usually accompanied by treating the remaining effluent by the addition of chlorine to kill bacteria.

PRODUCTIVITY: The level of production or growth of plants and animals.

RADIOACTIVE WASTES: Discharges of waste materials containing atomic particles which may cause damage to living organisms.

SALINE: Salty.

SECONDARY TREATMENT: The treatment of sewage by allowing bacteria to decompose organic matter in the water. This reduces the amounts of dissolved solids and BOD of the water beyond that of primary treatment.

SEDIMENT: Material deposited on a lake or river bottom.

SEWAGE: Domestic wastes carried in a liquid medium.

SEWERAGE: The providing of a system to carry away domestic wastes.

SHORELINE: The point at which water and land meet.

SLURRY: Soup-like material, usually in motion, often at the bottom of a lake.

STRATIFIED LAKE: A lake having a distribution of temperature with depths with temperatures being fairly constant across the lake at any fixed depth.

SUSPENDED SOLIDS: Fine particles of solid material which are suspended in the water, settling out slowly.

SYNERGISM: Two or more materials reacting together to cause an effect greater than the sum of their two individual effects.

TAXONOMY: The science of assigning names to living organisms.

TERTIARY TREATMENT: The treatment of sewage by chemical means to reduce the amounts of suspended solids, organic chemicals, and BOD in the water beyond the level reached during secondary treatment.

THERMAL POLUTION: Heat discharges to bodies of water which cause ecological damage.

THERMOCLINE: The depth in a body of water at which the change in temperature is the greatest. It is below the epilimnion and above the hypolimnion.

TURBIDITY: Lack of clarity in the water due to the presence of suspended solids or plankton.

WATER QUALITY: The gradation and categorization of water according to its possible uses, such as drinking, swimming, fishing, boating, and industrial uses, or according to its levels of various parameters.

WATERSHED: The entire area surrounding a body of water which contributes water to it.

ZOOPLANKTON: Animal plankton.

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